

## Hazardous Area Label printer for Gas & Dust Applications



### Key points

- Market leading Zebra ZT111 4" thermal transfer label printer
- Explosion protection for gas and dust environments
- Compliance to North American standards
- 316L stainless steel enclosure for industrial & ultra-clean environments.
- Simple installation and operation

### Overview

Printers for barcode and batch identification labels are found in many industrial locations. If the printer is to be located in a hazardous area, then an explosion protected solution is required to ensure safe operation.

Due to operational requirement & constraints, many of the possible Ex protection concepts for hazardous areas are not suitable. Purge & Pressurization provides the most flexible and cost-effective solution.

Expo has worked with Zebra Technologies, a leading manufacturer of industrial label printers, to develop a compliant solution based around their popular ZT111 4" thermal transfer label printer.

### What is Purge & Pressurization?

A two-step process that is required prior to energizing electrical equipment inside a suitable leak-tight enclosure.

Using instrument quality air, the enclosure is first purged for a set time. This time is calculated based on the enclosure dimensions and the number of volume changes required by the standard. After successful completion of the purge sequence, the enclosure is maintained at a set over-pressure and the electrical equipment can be energized.

Note that for dust applications, there is no initial purge phase - after cleaning the enclosure of any dust, the system is simply pressurized before it can be energized.

### Expo's solution

The printer is installed inside a robust stainless steel enclosure. The system is fitted with a pressurization system to control and monitor the purge & pressurization process.

Expo's design incorporates the following key features:

- Through-the-enclosure-wall push-buttons to actuate the printer membrane switches for label feed control.
- A clear window to view the printer status LEDs.
- A low-leakage label slot to permit label exit, whilst maintaining positive pressure inside the enclosure.
- A side access door with a window for monitoring and changing the print media roll.



## Specifications

Printer	Zebra ZT111 thermal transfer label printer ( 203 or 300 dpi). (Zebra SKU: ZT11142-TOE000FZ or ZT11143-TOE000FZ)
Utilities : Instrument air	Supply pressure: 50 -101 psig. Flow rate—purge phase: 8.0 SCFM. Flow rate—pressurization phase: 0.9 SCFM approx.
Utilities : Power	100-240 VAC; 50-60 Hz.
Hazardous environment—gas	Class I, Division 2. Protection by purge & pressurization. Purge time 4 minutes (manual).
Hazardous environment—dust	Class II, Division 2. Protection by pressurization only.
Approvals	Compliance with NFPA 496 (Manufacturer's Declaration of Conformity).
Electrical connections	Class I / II Div.2: Connections to internal terminal rail.
Operating temperature	+41°F to +95 °F
Enclosure material	316L stainless steel 2.0 mm thick (~14 gauge) / laminated glass 0.25 in. thick.
Ingress protection	IP42
Enclosure dimensions	15" x 15" x 22"
Weight with printer (excl. packaging)	68lb
Communication to printer	Wired ethernet. Push buttons for Pause, Feed, Cancel.
Packaging	Wooden crate.

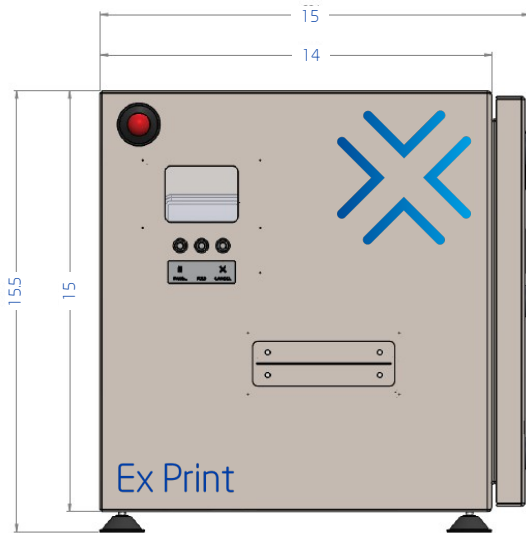
## Part Numbers

Pressurized Enclosure & ZT111 Thermal Transfer Printer	Print resolution	Part Number	Pressurization System
Class I Div. 2 – Gas	203 dpi	PR-12E-K	Type Z leakage compensation
	300 dpi	PR-13E-K	
Class II Div. 2 – Dust	203 dpi	PR-12E-L	Type Z Dust pressurization
	300 dpi	PR-13E-L	



### General Arrangement Drawings

Dimensions in inches

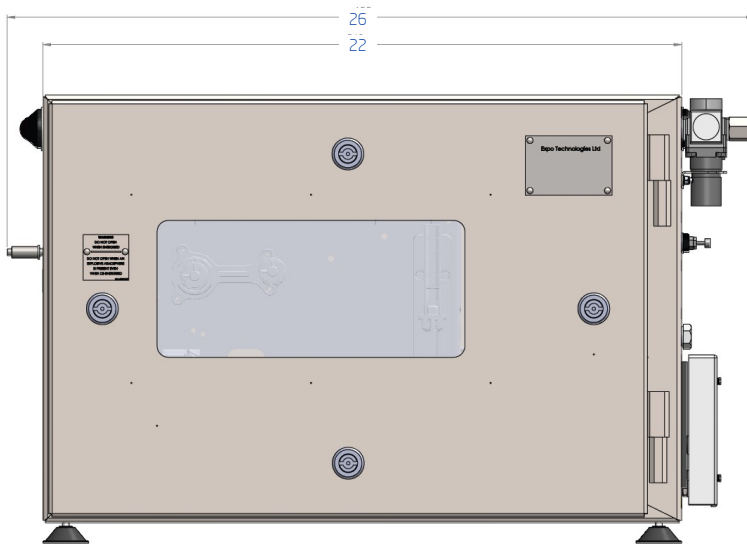


### Hazardous Area Compliance

Manufacturer's Declaration to NFPA496  
For use in Class I, Division 2  
Gas groups A, B, C, D

For use in Class II, Division 2  
Dust groups E, F, G

Tamb 41 °F to 95 °F



Ex Print Datasheet N. America Div. 2  
MKTG 09122024

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